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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/880,801	06/15/2001	Shu-Hiu Chen	CHEN3223/EM/6868	6980
23364	7590	10/19/2004	EXAMINER	
BACON & THOMAS, PLLC 625 SLATERS LANE FOURTH FLOOR ALEXANDRIA, VA 22314			CHOI, LING SIU	
			ART UNIT	PAPER NUMBER
			1713	

DATE MAILED: 10/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/880,801	Applicant(s) CHEN ET AL.	
	Examiner Ling-Siu Choi	Art Unit 1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 17-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 17-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                            | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

## **DETAILED ACTION**

1. This Office action is in response to the Amendment filed July 26, 2004. Claims 10-16 were canceled and claims 1-9 and 17-25 are now pending.

### ***Claim Objections***

2. Claim 17 is objected to because of the following informalities: claim 17, lines 4 and 6, "rising" is suggested to be changed to --rinsing--.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

**A person shall be entitled to a patent unless --**

**(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.**

4. Claims 1-9 are rejected under 35 U.S.C. 102(b) as being anticipated by . Arai (US 6,013,168), Chiem et al. (1997) [Anal. Chem. 69, 373-378(1997)], Chiem et al. (1998) [Clinical Chemistry, 44(3), 591-598(1998)], Seiler et al.

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(1993) [Anal. Chem. 65, 1481-1488(1993)], Seiler et al. (1994) [Anal. Chem. 66, 3485-3491(1994)], or Jacobson et al. [Anal. Chem. 67, 2059-2063 (1995)].

The present invention relates to a sample analysis system with chip-based electrophoresis device, comprising

1	an auto-sampling device	for loading and introducing a sample
2	a chip	for loading and separation of the sample
3	a power supplier	for providing electric voltage to separate the sample
4	a detecting unit	for detecting the signal generated by the sample
5	a signal collecting unit	for collecting the sample signal
6	a signal processing unit	for outputting the signal

(summary of claim 1)

Arai discloses a microchip electrophoresis apparatus comprising (a) a liquid injection mechanism for injecting a buffer solution, (b) a sample injection mechanism for injecting a sample, (c) a power source for switching and applying a sample introduction voltage for introducing the sample from a sample introduction passage into a separation passage and a separation voltage for electrophoretically separating the sample, and (d) a detector for optically detecting electrophoretically separated sample (claim 1). Arai further discloses that the optical signal detected by the detector (photomultiplier) is amplified and

then converted to a digital signal by A-D converter, which is outputted to a CPU (col. 2, lines 35-38).

Chiem et al. (1997) disclose a microchip capillary electrophoresis device comprising (a) a computer-controlled power supply, (b) an argon ion laser for a laser-induced fluorescence, (c) a photomultiplier tube as a detector, (d) an injector for a sample, and (d) a computer for recording a filtered signal (page 375).

Chiem et al. (1998) disclose a glass microchip for immunoassay, comprising (a) an injector, (b) a computer-controlled power supply, (c) separation channel, (d) a laser-induced fluorescence, (e) a photomultiplier tube as a detector, and (f) a computer (second column of pages 592; Figures 1-2; first column of page 593).

Seiler et al. disclose a planar glass chip for capillary electrophoresis, comprising a power supply, migration channel, , a syringe, an argon ion laser, PMT, and a computer (second column of page 1482; column 1 of page 1483).

Seller et al. disclose a glass chip comprising (a) a manifold of capillaries, (b) a computer-controlled system for applying and switching the potential, (c) an argon ion laser, (d) a photomultiplier tube, (e) a program for data acquisition, and (f) an injector (page 3485-3486).

Jacobson et al. disclose a fused quartz microchip for performing capillary electrophoresis, comprising (a) a column, (b) a detector for laser-induced fluorescence, (c) a data acquisition, and (d) an injector (page 2060).

Thus, the present claims are anticipated by the presence of the disclosure

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of Arai, Chiem et al. (1997), Chiem et al. (1998), Seiler et al. (1993), Seiler et al. (1994), or Jacobson et al..

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 17-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arai (US 6,013,168), Chiem et al. (1997) [Anal. Chem. 69, 373-378(1997)], Chiem et al. (1998) [Clinical Chemistry, 44(3), 591-598(1998)], Seiler et al. (1993) [Anal. Chem. 65, 1481-1488(1993)], Seiler et al. (1994) [Anal. Chem. 66, 3485-3491(1994)], or Jacobson et al. [Anal. Chem. 67, 2059-2063 (1995)], either one in view of Nochumson et al. et al. (US 4,415,428).

The disclosure is adequately set forth in paragraph 8 and is incorporated herein by reference.

The difference between the present claims and the disclosure of Arai, Chiem et al. (1997), Chiem et al. (1998), Seiler et al. (1993), Seiler et al. (1994), or Jacobson et al. is the requirement of surface modification.

Nochumson et al. disclose that polyester is pretreated with sodium hydroxide solution to increase the amount of surface hydroxy group and then

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react with a silane to achieve the surface modification (col. 2, lines 6-51). By such modification, the properties of surface can be tailored. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the surface according to the disclosure of Nochumson et al. and thereby obtain the present invention.

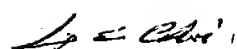
### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ling-Siu Choi whose telephone number is 571-272-1098. The examiner can normally be reached on Monday to Friday.

If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reach on 571-272-1114.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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**LING-SUI CHOI**  
**PRIMARY EXAMINER**

Ling -Siu Choi, Ph.D.

October 12, 2004